

Work Order ID 47307

July 1, 2009 11:36:46 AM



Page 1

Item ID: D3391-021

Accept



Setup Start



Revision ID: H

Item Name: Fwd Tube Assembly

Stop



Start Date: 07/15/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/03/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: ✓

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3391	Rev H								

100

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

Cut extrusion to 46.52 +0.010 -0.020

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend I

Memo

0.00

CNC Delta 100 Bender

Bend as per Dwg D3391 Using Bend Prog 3391021

120

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

Work Order ID 47307

July 1, 2009 11:36:46 AM



Page 2

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Setup Start



Stop



Start Date: 07/15/2009 Start Qty: 1.00
Required Date: 08/03/2009 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1 Memo 1-Machine as per Folio FA590 Rev. _____ & Dwg D3391 Rev. _____ <input type="checkbox"/> Identify as D3391-1 <input type="checkbox"/> 2-Deburr	0.00 0.00		✓					
140 QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00		✓					
150 Mill Conv Conventional Milling Machine	CONVENTIONAL MILLING MACHINE Memo Drill X1 Aft cap as per Dwg D3391 .1875" dia	0.00 0.00		✓					

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July 1, 2009 11:36:46 AM



Page 3

Item ID: D3391-021
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Setup Start



Stop



Start Date: 07/15/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/03/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00							✓
170 QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00							✓
180 Skidtubes Skidtubes	Skidtubes Memo 1-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)□(ONLY DRILL HOLES MARKED "A")□2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step□3-Open tow cap hole	0.00 0.00							✓

Work Order ID 47307

July 1, 2009 11:36:46 AM



Page 4

Item ID: D3391-021
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Item Name: Fwd Tube Assembly

Accept



Setup Start



Stop



Start Date: 07/15/2009 Start Qty: 1.00
Required Date: 08/03/2009 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00		✓					
200 HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00		✓					
210 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00		✓					PL 09-8-25

Work Order ID 47307

July 1, 2009 11:36:46 AM



Page 5

Item ID: D3391-021

Accept



Setup Start



Revision ID: H

Stop



Item Name: Fwd Tube Assembly

Start Date: 07/15/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/03/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

0.00



Skidtubes

Skidtubes

Memo

0.00

1-instal spacers as per dwg D3391 A/R Magnabond 6398
batch: exp. date: cure time 12hrs. as per
QSI015 2- grind crossbolt flush 3-back drill crossbolt if necessary

230

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

240

0.00



White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

Powdercoat

Memo

0.00

START TIME: OVEN TEMPERATURE:
FINISH TIME:

Powder Coating

Work Order ID 47307

July 1, 2009 11:36:46 AM



Page 6

Item ID: D3391-021

Accept



Setup Start



Revision ID: H

Stop



Item Name: Fwd Tube Assembly

Start Date: 07/15/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/03/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

260

Identify as per dwg & Stock Location: _____

0.00



Packaging

Memo

0.00

Packaging

270

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

**** install D3591-1 spacer as per DSI9364 ****

Work Order ID 47307

July 1, 2009 11:36:46 AM



Page 7

Item ID: D3391-021

Accept



Setup Start



Revision ID: H

Stop



Item Name: Fwd Tube Assembly

Start Date: 07/15/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 08/03/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

mf
09-09-03

Picklist Print

July 1, 2009 11:36:45 AM

Page 1

13

Work Order ID: 47307

Parent Item: D3391-021RevH

Parent Item Name: Fwd Tube Assembly

Comments:

Start Date: 07/15/2009

Required Date: 08/03/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ ALH AELS-1032-225		Purchased	No		110768	UMD 09/07/02	Each	0.0000	10.0000			
INSERT AELS-1032-130		Purchased	No		110511	UMD 09/07/02	Each	0.0000	2.0000			
INSERT AN3C4A		Purchased	No				Each	324.0000	10.0000			
* BOLT												

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

UMD 09/07/02

324

324

112082

260

Each

5,096.000 10.0000

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

UMD 09/07/02

5096

100

4996

103585

112116

✓ ~~*~~
AN960C10L

washer

Picklist Print

July 1, 2009 11:36:45 AM

Page 2

Work Order ID: 47307

Parent Item: D3391-021RevH

Parent Item Name: Fwd Tube Assembly

Comments:

Start Date: 07/15/2009

Required Date: 08/03/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ D3401-041RevB		Manufactured	No			260	Each	28.0000	1.0000			



Tow Cap Assembly

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

28

36216

1

41931

11

46029

16

260

Each

23.0000

1.0000



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

23

45409

3

46495

10

47867

10



Wearshoe

July 1, 2009 11:36:45 AM

Shop Packet Print

Page 2

Picklist Print

July 1, 2009 11:36:45 AM

Page 3

Work Order ID: 47307

Parent Item: D3391-021RevH

Parent Item Name: Fwd Tube Assembly

Comments:

Start Date: 07/15/2009

Required Date: 08/03/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ D3566-13RevC		Manufactured	No			260	Each	34.0000	1.0000			



Gasket

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

34

45717

1

46889

7

47435

8

48166

18

✓ D3672-1RevB

Manufactured No

260

Each

784.0000

4.0000



Phenolic Washer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

784

39275

19

42329

143

47628

622








July 1, 2009 11:36:45 AM

Shop Packet Print

Page 3

Date: Monday, 20/04/2009 1:54:44 PM
 User: Julie Dawson

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: FWD TUBE ASSEMBLY								
Job Number	: 47307										
Estimate Number	: 10467										
P.O. Number	:	Part Number	: D3391021								
This Issue	: 20/04/2009	S.O. No.	:								
Prsht Rev.	: NC	Drawing Number	: D3391 REV H								
First Issue	: / /	Project Number	: N/A								
Previous Run	: 47306	Drawing Revision	: H								
Written By	:	Material	:								
Checked & Approved By	: <u>JUL 09 04 20</u>	Due Date	: 05/05/2009								
Comment	: Est. A 05.09.13 New issue KJ/JLM Est. B 06.02.10 Dwg rev.D ecn 773 EC Est. C 06.05.02 Added inspections EC est D 07.03.13 rev F dwg EC est E 07.11.07 revG dwg ecn1053P EC verified by: DD Est Rev:f ECN 1056 07-11-12 DD verified by: EC Est Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC Est Rev:H 08-09-10 revH as per dwg DD verified by:EC Est Rev J 09.02.02 added hardware EC verified by: DD										
Additional Product											
Job Number: 											
Seq. #:	Machine Or Operation:	Description :									
1.0	D6013047	Skidtube Material									
											
Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s) SKIDTUBE MAT'L Pick: <table border="1"> <thead> <tr> <th>Qty</th> <th>Part Number</th> <th>Description</th> <th>Batch</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>D6013-047</td> <td>Extrusion</td> <td>26547</td> </tr> </tbody> </table>				Qty	Part Number	Description	Batch	1	D6013-047	Extrusion	26547
Qty	Part Number	Description	Batch								
1	D6013-047	Extrusion	26547								
2.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1									
											
Comment: LANDING GEAR RESOURCE 1 Cut extrusion to 46.52 +0.010 -0.020											
3.0	BENDING	BENDING MACHINE - SKIDTUBES									
											
Comment: Nc bender Bend as per Dwg D3391 Using Bend Prog 3391021											

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 20/04/2009 1:54:44 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 47307

Part Number: D3391021

Job Number:



Seq. #: Machine Or Operation: Description :

4.0

✓ QC5

INSPECT WORK TO CURRENT STEP



$h = 7.060"$
 $L = 13.5"$



Comment: INSPECT WORK TO CURRENT STEP

SA 09/04/21

5.0

✓ HAAS1

HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine as per Folio FA590 Rev. F & Dwg D3391 Rev. H
Identify as D3391-1

2-Deburr

N.A 09/04/26

6.0

✓ QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

N.A 09/04/26

7.0

✓ MILLING CONV.

CONVENTIONAL MILLING MACHINE



Comment: CONVENTIONAL MILLING MACHINE

Drill X1 Aft cap as per Dwg D3391 .1875" dia

SA 09/04/27

8.0

✓ QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

SA 09/04/27

9.0

✓ QC8

SECOND CHECK



Comment: SECOND CHECK

SP 09/04/28 (1)

10.0

✓ SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5- open float bag holes 0.328" and counter sink as per dwg D3391

719-4-29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 20/04/2009 1:54:44 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 47307

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

6-Deburr & Scribe Batch number Inside aft end.

7-Transfer drill D3391-021 with D3391-023

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8016521 (40)

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

AWM 9-5-22 (1)

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

(1) 149-5-29

14.0

D36704200

SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

SPACER

batch:

346106 (8) 149-5-29

15.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-instal spacers as per dwg D3391

A/R Magnabond 6398 batch:

exp. date: 12-2-1

cure time 12hrs. as per QSI015

111249 149-5-29

2- grind crossbolt flush

149-6-4

3-back drill crossbolt if necessary

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

80166104 (8)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 20/04/2009 1:54:44 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 47307

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

✓ POWDER COATING

POWDER COATING



M111472



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

START TIME:

9:00AM

OVEN TEMPERATURE:

320°F

FINISH TIME:

9:30AM

all

09-07-01

(X)

18.0

✓ QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

Bl

0207-2

①

19.0

✓ D3401041

Tow Cap Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Tow Cap Assembly

B41931

umc 09/07/02

20.0

✓ D356413

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Wearshoe

B47807

umc 09/07/02

21.0

✓ D356613

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Gasket

B46889

umc 09/07/02

22.0

✓ D36721

Phenolic Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Phenolic Washer

B42329

umc 09/07/02

23.0

✓ AN3C4A

BOLT



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)

BOLT

m12082

umc 09/07/02

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 20/04/2009 1:54:44 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 47307

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

✓ AN960C10L

washer



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

* washer

m 112116

um 09/07/02

25.0

✓ ALS41032130

Insert



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

* INSERT

m 110511

um 09/07/02

26.0

✓ ALS41032225

Insert



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

* INSERT

m 110768

um 09/07/02

27.0

✓ PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

PP051 313

Pu 9/8/00

28.0

✓ SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: SKIDTUBESS RESOURCE 1

**** install D3591-1 spacer as per DSI9364 ****

el

09/09/02

29.0

✓ QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/09/04

Job Completion



mf
09-0904

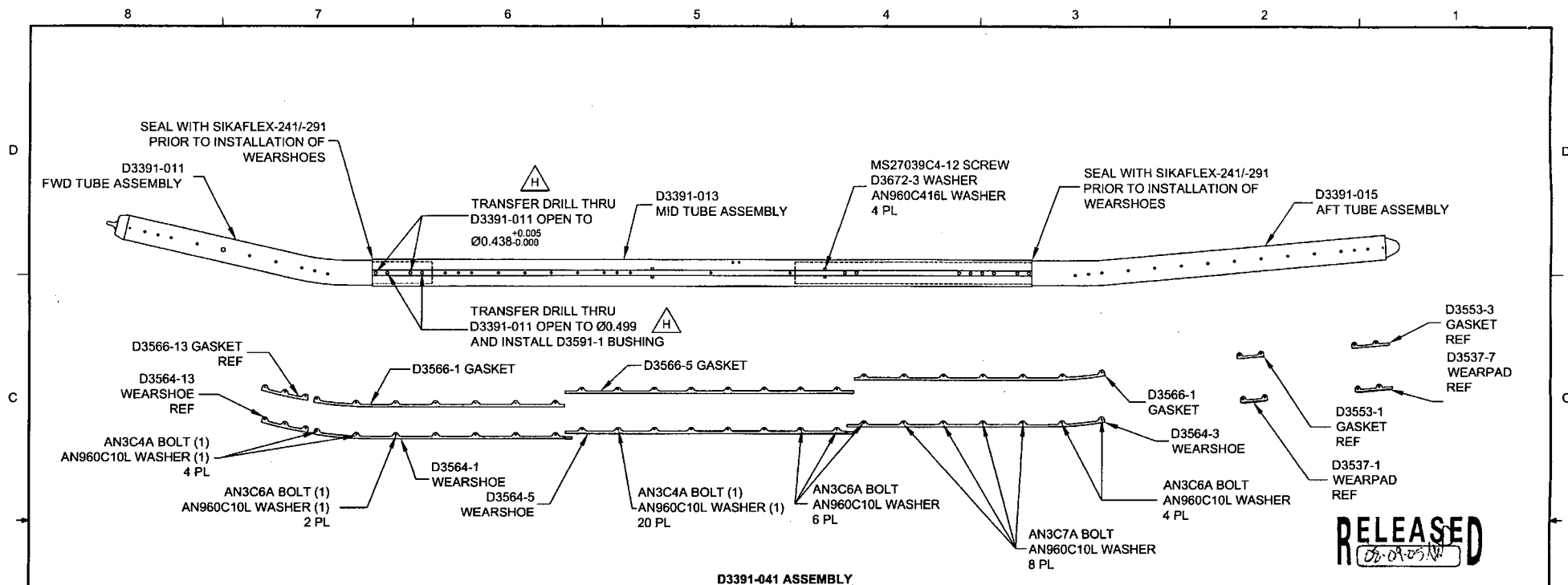
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
09/07/02	20.1	Install insert and tow cap as per Dwg 3391-021	MD BL	09-07-02	①		S 09/08/02

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-041 ASSEMBLY

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

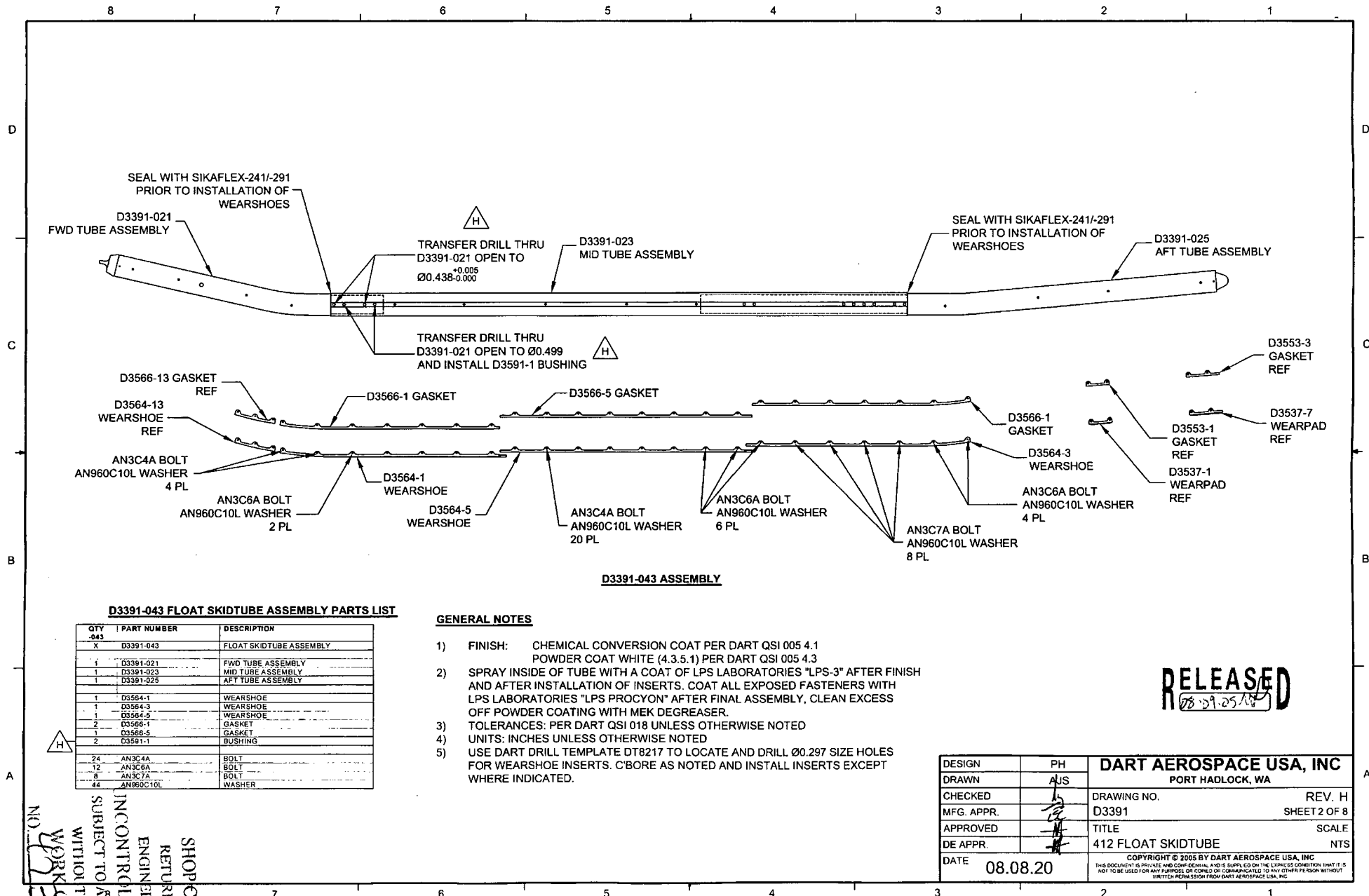
QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. CBORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	AJS		
CHECKED		DRAWING NO. D3391	REV. H
MFG. APPR.			SHEET 1 OF 8
APPROVED		TITLE 412 FLOAT SKIDTUBE	SCALE
DE APPR.			NTS
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D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER

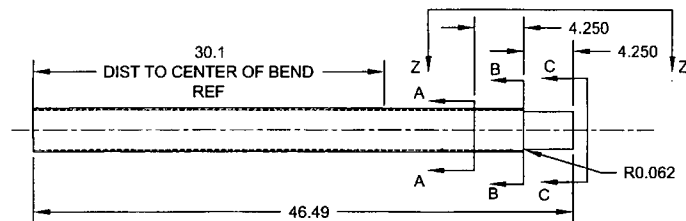
GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH
AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH
LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS
OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL $\varnothing 0.297$ SIZE HOLES
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.

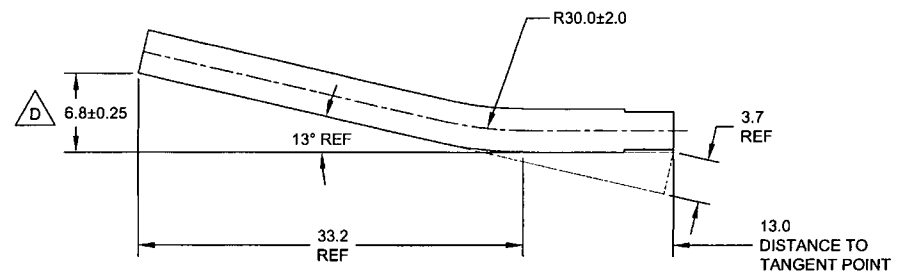
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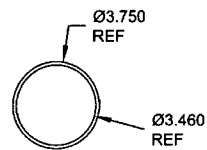
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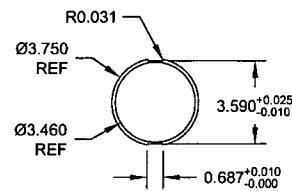
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



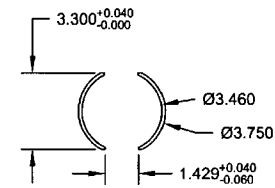
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



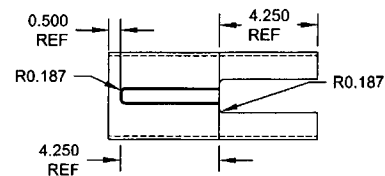
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X

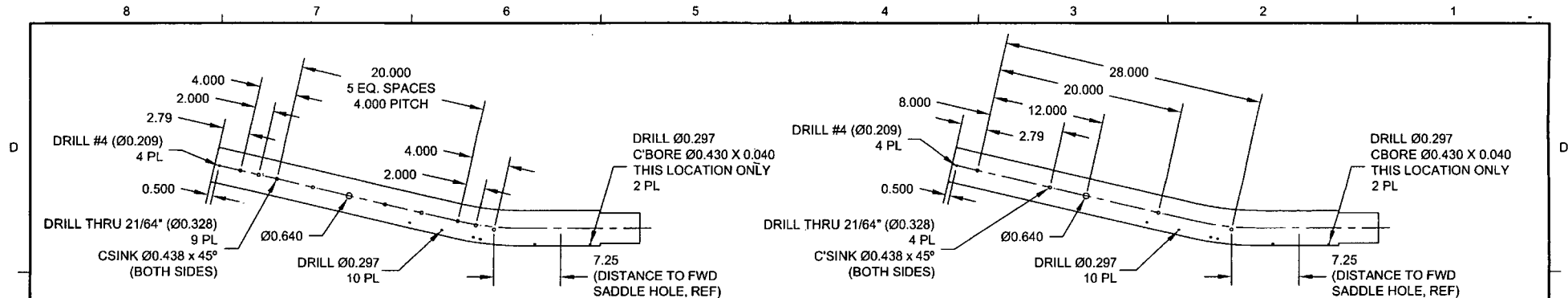


VIEW Z-Z
SCALE 2X

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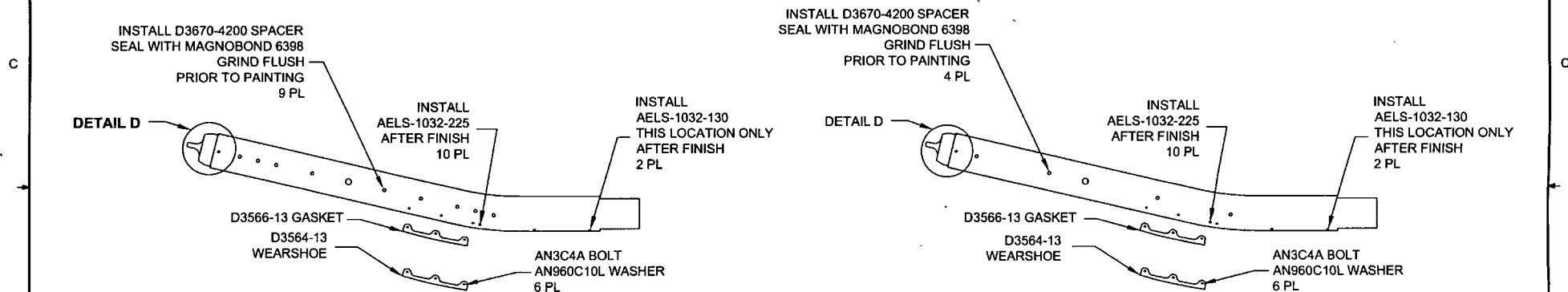
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D3391-011 DRILLING DETAIL

D3391-021 DRILLING DETAIL

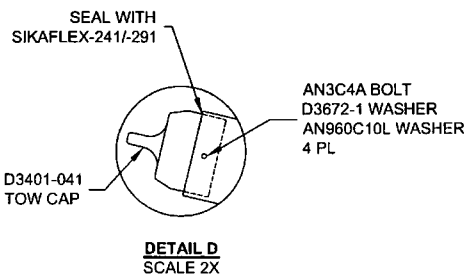


D3391-011 ASSEMBLY DETAIL

D3391-021 ASSEMBLY DETAIL

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

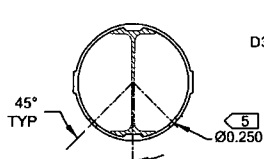
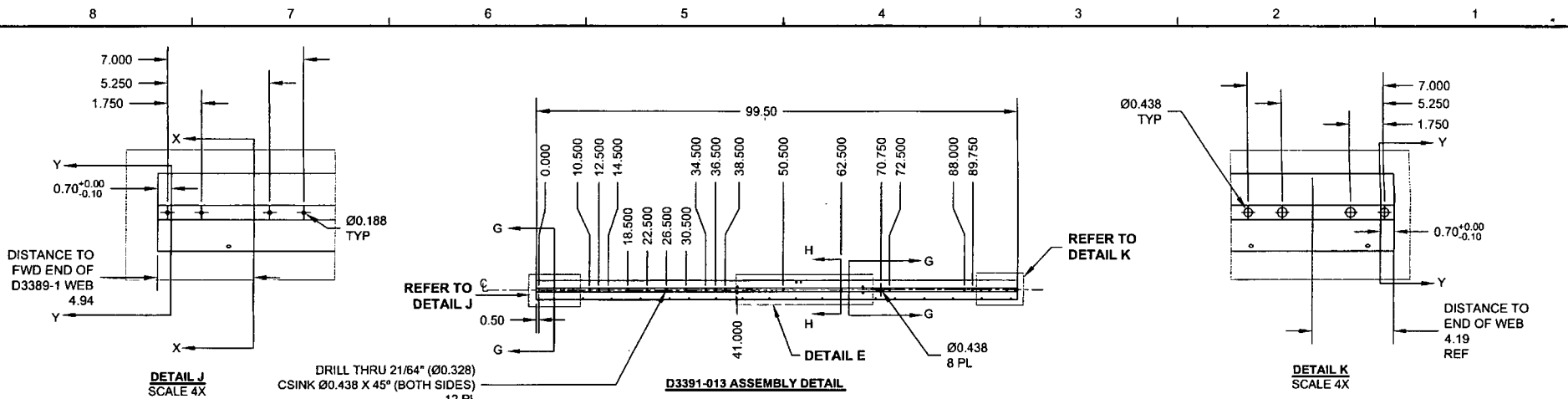
QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
2	2	AELS-1032-130	INSERT
10	10	AELS-1032-225	INSERT



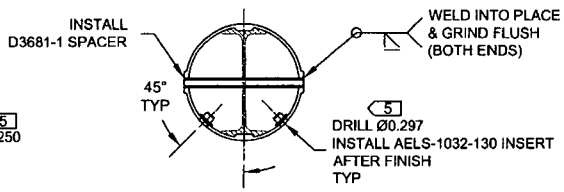
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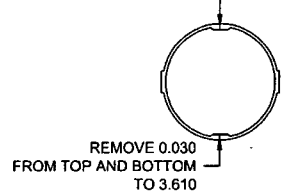
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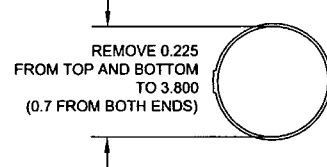
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



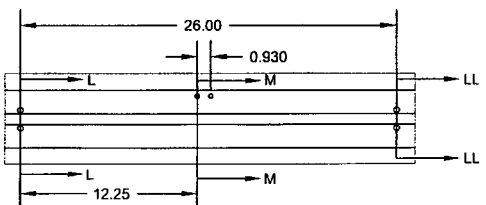
SECTION X-X
SCALE 5X



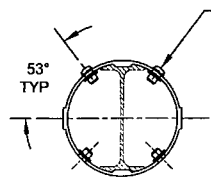
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D3391-013 MID TUBE ASSEMBLY PARTS LIST

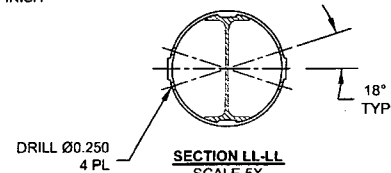
QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



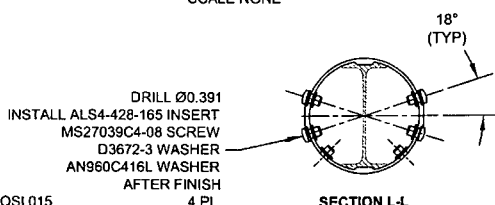
DETAIL E
SCALE NONE



SECTION M-M
SCALE 5X



SECTION L-L
SCALE 5X



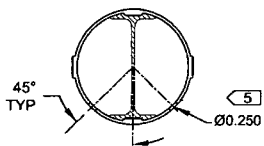
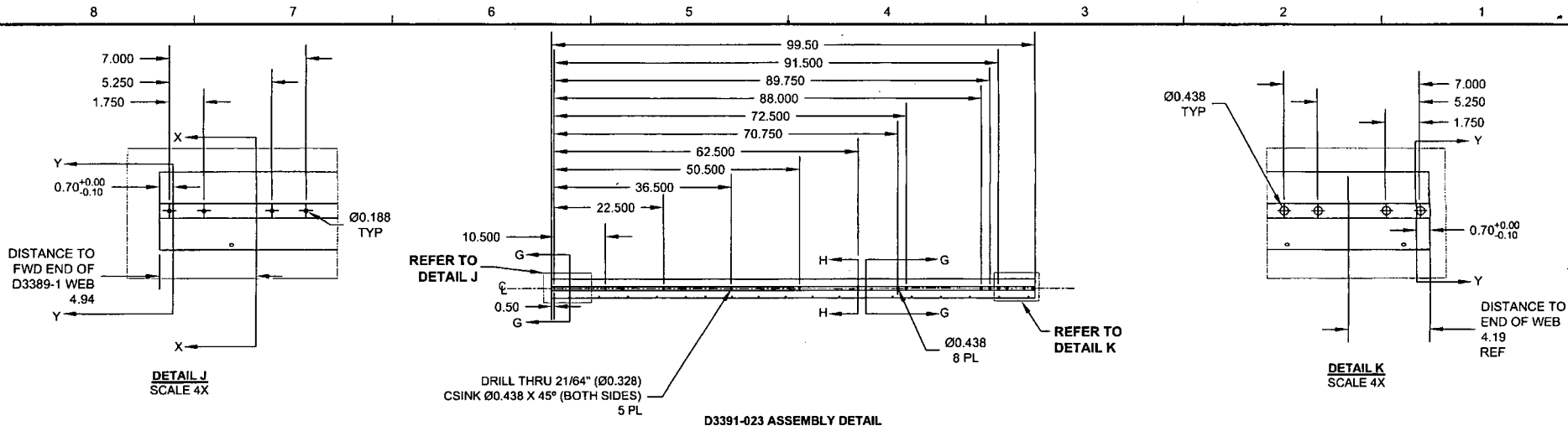
SECTION L-L
SCALE 5X

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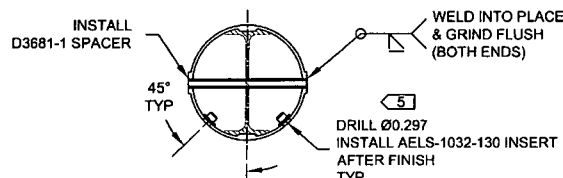
D3391-013 MID TUBE ASSEMBLY

MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
WELDING: PER DART QSI 004

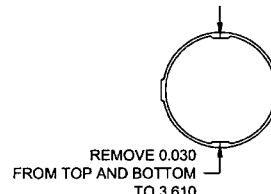
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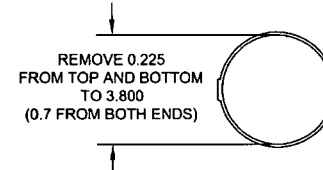
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

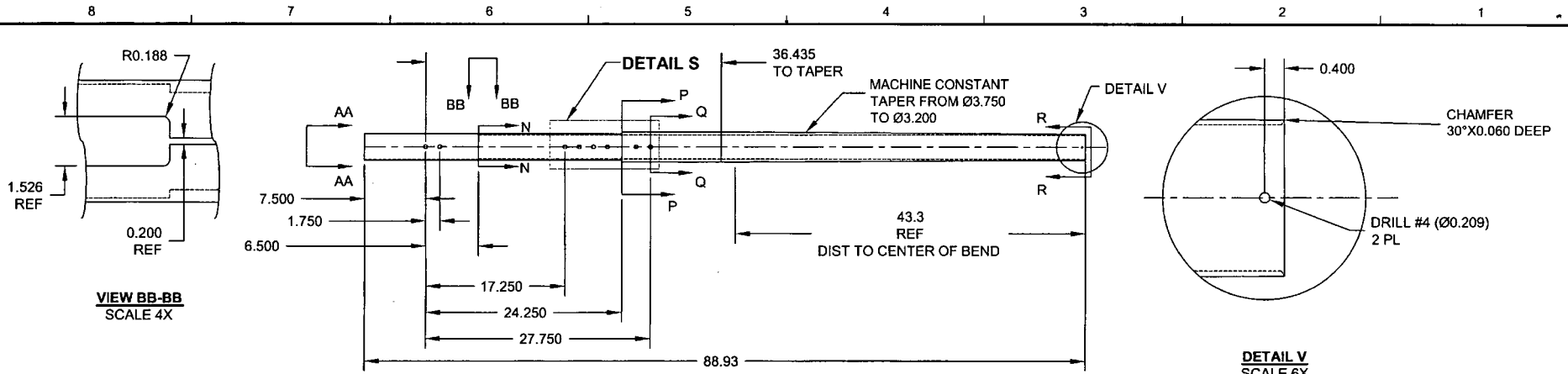
D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

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08-27-05-14

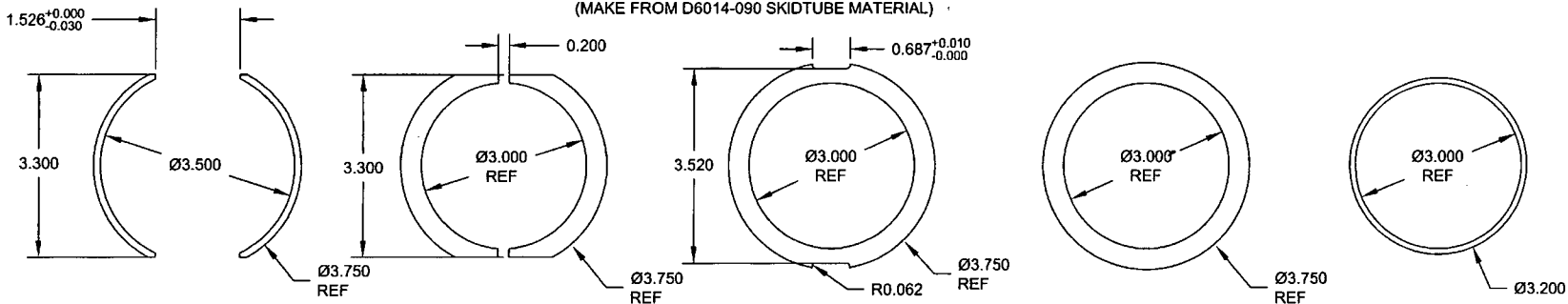
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D3391-3 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)

DETAIL V
SCALE 6X



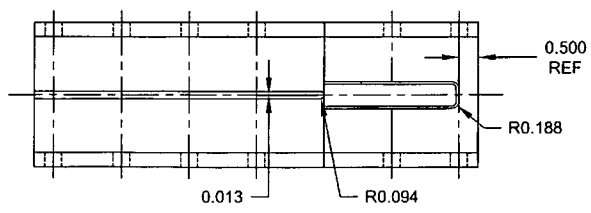
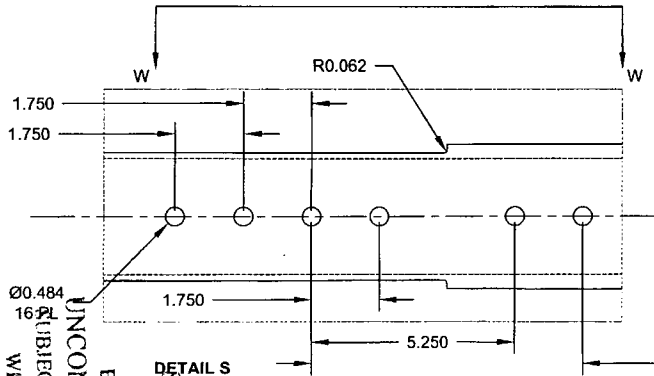
SECTION AA-AA
SCALE 6X

SECTION N-N
SCALE 6X

SECTION P-P
SCALE 6X

SECTION Q-Q
SCALE 6X

SECTION R-R
SCALE 6X



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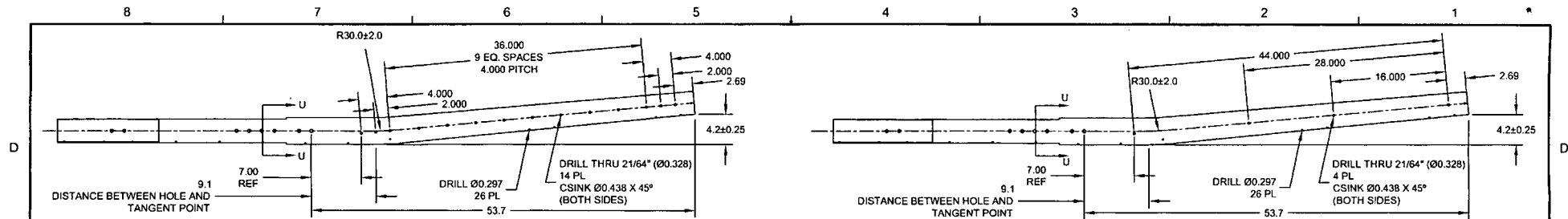
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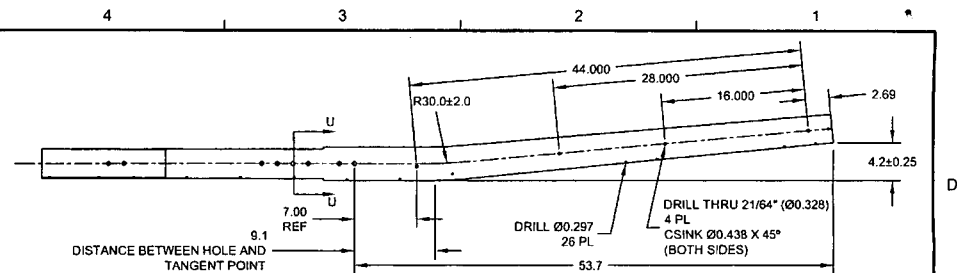
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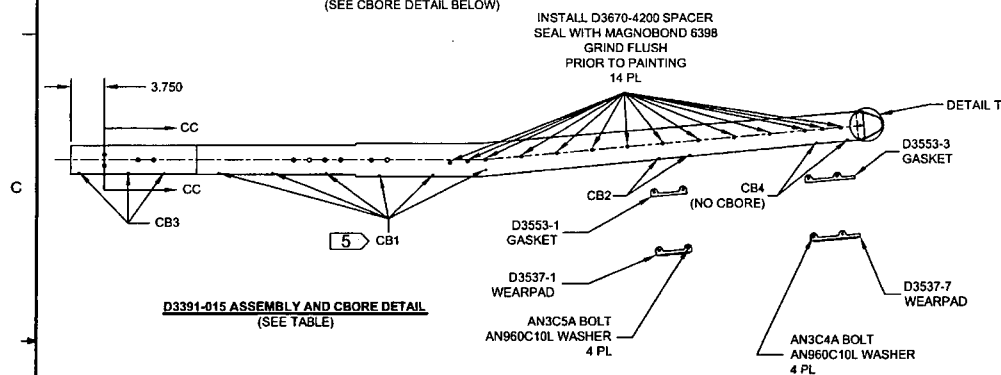
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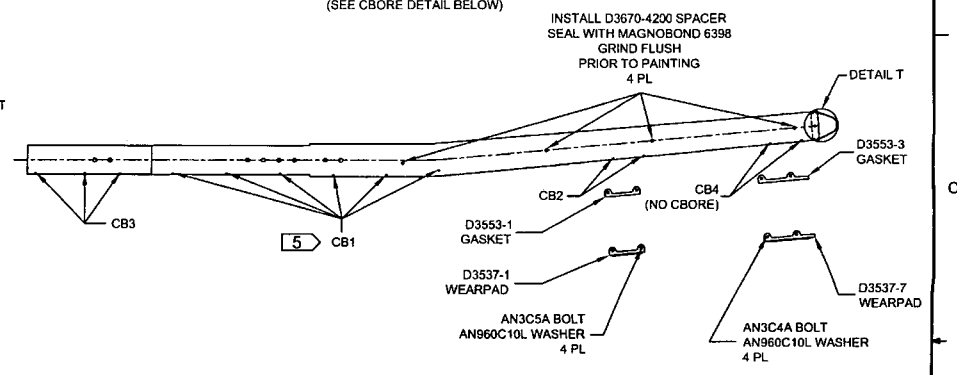
D3391-015 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)



D3391-025 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)



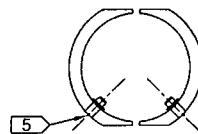
D3391-015 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)



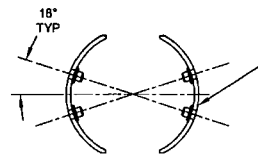
D3391-025 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
X	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4	4	ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

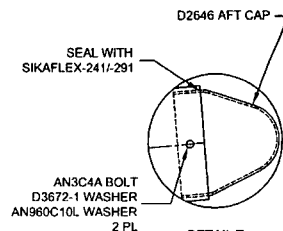


SECTION U-U
SCALE 3X



SECTION CC-CC
SCALE 3X

DRILL Ø0.391
CBORE Ø0.516 X 0.040 DEEP
INSTALL ALS4-428-165 INSERT
4 PL



DETAIL T
SCALE 4X

RELEASED

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

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